

Study Plan for Bachelor of Physics

Description of the plan

The student should successfully 186 credit hours before graduation.

Undergraduate Study Plan of Physics Program

The following table displays the details of the study plan

Requirements	No. of courses	Credit hours
Preparatory Year	12	46
University requirements	4	8
Department compulsory	24	88
Department electives(Elective Internal Course)	4	16
Non-department compulsory	4	17
Field Training	1	2
Non-department electives(Elective External Course)	1	3
Free courses	2	6
Total	25	653

The undergraduate study plan is distributed on the following levels:

1. Level one: (Preparatory year)

Code No.	Course Title	No. of Units	Pre-requisite
Math 1050	Differential Calculus	4(2.2.0)	
IC 101	Introduction Of Islamic Culture	2(2.0.0)	
ENGL 1210	Reading Skills	5(2.3.0)	
ENGL 1220	Writing Skills	5(2.3.0)	
Total		16 (8, 8, 0)	

2. Level Two: (Preparatory year)

Code No.	Course Title	No. of Units	Pre-requisite
Math 1060	Integral Calculus	4(2,2,0)	Math 1050
ARAB 101	Language Skills	2(2,0,0)	
ENGL1230	Conversation And Listening Skills	5(2,3,0)	
CT 1400	Computer Skills	3(2,0,1)	
Total		14(7,5,2)	

3. Level Three: (Preparatory year)

Code No.	Course Title	No. of Units	Pre-requisite
PHYS 1010	General Physics (1)	5(3.1.1)	
MC 1400	Communication Skills	2(2.0.0)	
ENGL 1604	English For Technical Purposes	5(4.0.1)	
ENGL 1606	English For Academic Purposes	4(2.2.0)	
Total		16(11,3,2)	

4. Level Four (Second Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys 2110	Optics (1)	4 (4,0, 0)	Phys 1010
Chem2010	General Chemistry (1)	5 (4,0, 1)	
Phys2210	Electromagnetic (1)	4 (4,0, 0)	Phys 1010
Math2230	Algebra And Analytic Geometry For Students Of Physics And Statistics	4 (4,0, 0)	
Total		14 (16,0, 1)	

5. Fifth Level (Second Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys 2190	Electric And Geometrical Optics Lab	2 (0,0, 2)	Phys 1010
Phys 2250	Optics2	4 (4,0, 0)	Phys2110
Phys 2410	Thermodynamics	4 (4,0, 0)	Phys 1010- Math 1060
Phys 2140	Classical Mechanics (1)	4 (4,0, 0)	Phys 1010
Chem xxxx	Elective External Course	3 (3,0, 0)	Chem2010
Total		17 (15,0, 2)	

6. Sixth Level (Second Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys 2930	Optics Lab	2 (0,0, 2)	Phys 2250
Phys 2430	Electromagnetism (2)	4 (4,0, 0)	Phys2210
Phys 3150	Classical Mechanics (2)	4 (4,0, 0)	Phys 2140
Math 3320	Calculus-Iii, Multivariable Calculus	4 (4,0, 0)	Math 1060
IC102	The Islam and Society Building	2 (2,0, 0)	
Total		16 (14,0, 2)	

7. Seventh Level (Third Year)

Code No.	Course Title	No. of Units	Pre-requisite
Math 3410	Differential Equations For Physics Students	4 (4,0, 0)	Math 3320
Phys 3010	Mathematical Physics (1)	4 (4,0, 0)	
Phys 3920	Electromagnetic Lab	2 (0,0, 2)	Phys 2430
Arab103	Arabic Editing	2 (2,0, 0)	
IC103	The Foundation Of The Economic System In Islam	2 (2,0, 0)	
xxxx	Free Course	3	
Total		17 (15,0, 2)	

8. Eighth Level: (Third Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys3560	Quantum Mechanics (1)	5 (4,1, 0)	
Phys 3420	Statistical Physics (1)	5 (4,1, 0)	Phys 2410
Phys 3710	Solid State Physics (1)	5 (4,1, 0)	
IC104	Foundations Of The Political System In Islam	2 (2,0, 0)	
Total		17 (14,3, 0)	

9. Ninth Level: (Third Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys 3760	Atomic Physics	4 (4,0, 0)	Phys 3560
Phys 3950	Solid State Physics Lab	2 (0,0, 2)	Phys 3710
Phys 3020	Mathematical Physics (2)	5 (4,1, 0)	Phys 3010
Phys4240	Analogue Electronics	4 (3,0, 1)	Phys 2210
Total		15 (11,1, 3)	

10. Ten Level: (Fourth Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys4960	Modern Physics Lab	2 (0,0, 2)	
Phys 4340	Nuclear And Particle Physics	4 (4,0, 0)	Phys 3760
xxxx	Free Course	3	
Phys 4590	Field Training	2 (0,0, 6)	after passing 134credit hours
Total		11	

11. Eleventh Level: (Fourth Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys 4560	Quantum Mechanics (2)	5 (4,1, 0)	Phys 3560
Phys 4050	Computational Physics	4 (3,0, 1)	Phys 3150
Phys 4010	Ethics For Physics	2 (2,0, 0)	
Phys xxxx	Elective Internal Course	4	
Total		15	

12. Twelfth Level: (Fourth Year)

Code No.	Course Title	No. of Units	Pre-requisite
Phys xxxx	Elective Internal Course	4	
Phys xxxx	Elective Internal Course	4	
Phys xxxx	Elective Internal Course	4	
Phys 4990	Graduation Project	3 (0,1, 2)	after passing 160 credit hours
Total		15	

Elective Internal Course (from inside the department) : 16 credit units

Code No.	Course Title	No. of Units	Pre-requisite
Phys 4190	Nanophysics	4 (4 , 0 , 0)	Phys 3710
Phys 4220	Statistical Physics (2)	4 (4 , 0 , 0)	Phys 3420
Phys 4230	Plasma Physics	4 (4 , 0 , 0)	Phys 2430
Phys 4320	Experimental Physics	4 (4 , 0 , 0)	Phys 3710
Phys 4330	Digital Electronics	4 (2 , 1 , 1)	Phys 4240
Phys 4350	Laser Physics And Its Applications	4 (4 , 0 , 0)	Phys 3760
Phys 4360	Radiation Physics	4 (4 , 0 , 0)	Phys 4340
Phys 4720	Solid Stat Physics (2)	4 (4 , 0 , 0)	Phys 3710
Phys 4740	Material Science	4 (4 , 0 , 0)	Phys 3710
Phys 4750	Solar Energy Physics	4 (4 , 0 , 0)	Phys 3710
Phys 4810	Non-Crystalline Materials	4 (4 , 0 , 0)	Phys 3710
Phys 4820	Introduction To Astronomy	4 (4 , 0 , 0)	Phys 3150
Phys 4080	Biophysics	4 (4 , 0 , 0)	Phys 2430
Phys 4081	Medical Physics	4 (4 , 0 , 0)	Phys 2430

Elective External Course (outside Physics department) one from these courses: 3 credit units

Code No.	Course Title	No. of Units	Pre-requisite
Chem 2170	Principles of inorganic chemistry	3 (3,0,0)	Chem 2010
Chem 2470	Principles of Organic Chemistry	3 (3,0,0)	Chem 2010

Free course: 6 credit units

Code No.	Course Title	No. of Units	Pre-requisite
xxxx	free course (inside or outside the faculty)	6	

Field Training (PHYS 4590): 2 credit units

The student must perform field training for two semesters as a prerequisite for obtaining a bachelor's degree after passing 134 credit hours from the department's plan in an entity recognized by the college.

Code No.	Course Title	No. of Units	Pre-requisite
PHYS 4590	Field Training	2	after passing 134 credit hours